

SECTION B.

DETAILED STATISTICAL TABLES

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Table 1. Academic science and engineering research space, by field: 1988-99¹ (revised)

Field	Net assignable square feet [in millions]							Percent change ²
	1988	1990	1992	1994	1996	1998	1999	1998-99
All fields.....	112	116	122	127	136	143	148	7
Biological sciences								
In medical schools.....	8	9	11	11	11	12	12	8
Outside medical schools.....	16	18	17	17	19	19	19	-1
Medical sciences								
In medical schools.....	14	15	16	17	18	18	19	9
Outside medical schools.....	5	5	6	6	7	7	7	19
Agricultural sciences.....	18	21	20	20	22	25	24	18
Engineering.....	16	17	18	21	22	23	24	7
Physical sciences.....	16	16	16	17	18	18	19	1
Earth, atmospheric, and ocean sciences.....	6	6	7	7	7	8	8	6
Social sciences.....	3	3	3	3	4	5	5	2
Psychology.....	3	3	3	3	3	3	3	-9
Computer sciences.....	1	1	2	2	2	2	2	12
Mathematics.....	1	1	1	1	1	1	1	1
Other sciences.....	4	2	2	2	2	3	3	9

¹ In past surveys, the year assigned to a survey reflected the year that the survey report was published. For example, the 1998 survey was published in 1998 while the data were collected for 1997. Starting with the 1999 survey, the survey year reflects the year of the current amount of space.

² Comparisons are based on institutions that provided data for both years. Calculations are based on unrounded numbers.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 2. Geographic distribution of academic science and engineering research space, by field: 1999 ¹ (revised)

Field	Net assignable square feet [in millions]					EPSCoR states ²	IDeA states ³
	All states	Northeast	Midwest	South	West		
All fields.....	147.6	27.9	38.9	46.3	33.8	18.3	20.6
Biological sciences							
In medical schools	12.4	3.1	3.1	4.5	1.6	1.3	1.3
Outside medical schools.....	19.3	3.5	5.4	5.1	5.1	2.3	2.3
Medical sciences							
In medical schools.....	18.8	3.1	4.7	7.2	3.7	2.0	1.7
Outside medical schools.....	7.5	1.8	2.2	1.9	1.6	0.9	0.8
Agricultural sciences.....	24.0	2.7	8.3	8.2	4.7	5.0	6.0
Engineering.....	24.1	4.1	5.9	8.2	5.8	2.6	3.2
Physical sciences.....	19.0	3.9	4.6	5.4	5.0	1.8	2.2
Earth, atmospheric, and ocean sciences.....	7.9	1.6	1.3	2.2	2.7	1.1	1.6
Social sciences.....	4.9	1.2	1.0	1.3	1.3	0.5	0.5
Psychology.....	3.5	0.9	0.8	0.8	1.0	0.3	0.4
Computer sciences.....	2.4	0.8	0.6	0.4	0.6	0.1	0.2
Mathematics.....	0.9	0.3	0.2	0.2	0.2	0.1	0.2
Other sciences.....	3.1	1.0	0.7	0.8	0.6	0.3	0.3

¹ Guam and Puerto Rico are excluded from the regions but are included in other table columns where appropriate.

² States in which institutions are eligible for the National Science Foundation's Experimental Program to Stimulate Competitive Research.

³ States in which institutions are eligible for grants from the Institutional Development Award program of the National Institutes of Health.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 3. Institutional distribution of academic science and engineering research space, by field and type of institution: 1999 (revised)

Field	Net assignable square feet [in millions]					
	All institutions	Field leaders ¹	Control		Minority-serving institutions	
			Private	Public	HBCUs	Hispanic- serving institutions ²
All fields.....	147.6	N/A	36.3	111.3	2.6	3.2
Biological sciences						
In medical schools	12.4	3.0	5.9	6.5	0.2	0.2
Outside medical schools.....	19.3	4.5	4.2	15.1	0.3	0.4
Medical sciences						
In medical schools.....	18.8	5.9	7.3	11.4	0.1	0.2
Outside medical schools.....	7.5	2.8	1.6	5.9	0.1	0.1
Agricultural sciences.....	24.0	13.6	1.2	22.7	0.7	0.2
Engineering.....	24.1	6.6	5.3	18.8	0.6	1.0
Physical sciences.....	19.0	3.8	5.3	13.7	0.4	0.5
Earth, atmospheric, and ocean sciences.....	7.9	2.6	1.4	6.5	0.1	0.1
Social sciences.....	4.9	1.9	0.8	4.0	*	0.1
Psychology.....	3.5	0.7	0.9	2.6	*	0.1
Computer sciences.....	2.4	1.0	0.9	1.4	0.2	0.1
Mathematics.....	0.9	0.3	0.3	0.6	*	*
Other sciences.....	3.1	1.8	1.1	2.0	*	0.2

¹ Field leaders are the 10 institutions with the most research space in a given field.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities
N/A = not applicable
* = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 4. Institutions with leased academic science and engineering research space, by field and type of institution: 1999 (revised)

Field	Percent of institutions						
	All institutions	Doctorate granting institutions	Field leaders ¹	Control		Minority-serving institutions	
				Public	Private	HBCUs	Hispanic-serving institutions ²
All fields.....	27.5	39.2	N/A	28.5	25.8	5.7	13.6
Biological sciences							
In medical schools	6.5	9.8	60.0	6.0	7.3	1.9	0.0
Outside medical schools.....	6.0	9.1	40.0	8.0	2.6	0.0	0.0
Medical sciences							
In medical schools.....	11.5	17.4	90.0	9.6	14.6	3.8	4.5
Outside medical schools.....	7.0	10.2	50.0	8.8	4.0	1.9	0.0
Agricultural sciences.....	2.5	3.4	40.0	3.6	0.7	0.0	0.0
Engineering.....	8.0	11.7	60.0	10.8	3.3	1.9	4.5
Physical sciences.....	3.5	5.3	30.0	4.8	1.3	0.0	0.0
Earth, atmospheric, and ocean sciences.....	4.3	6.0	20.0	6.8	0.0	0.0	0.0
Social sciences.....	3.8	5.3	30.0	4.8	2.0	0.0	0.0
Psychology.....	2.5	3.8	10.0	2.4	2.6	0.0	0.0
Computer sciences.....	2.3	3.4	30.0	2.4	2.0	0.0	4.5
Mathematics.....	1.0	1.5	10.0	1.2	0.7	0.0	0.0
Other sciences.....	3.0	3.4	30.0	2.4	4.0	1.9	4.5

¹ Field leaders are the 10 institutions with the most research space in a given field.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities
N/A = not applicable

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 5. Leased academic science and engineering research space, by type of institution: 1999 (revised)

Type of institution	Total S&E research space [NASF in millions]	Leased S&E research space [NASF in millions]	Percent of space leased
All academic institutions.....	147.6	7.2	4.9
Doctorate-granting institutions.....	141.1	7.2	5.1
Nondoctorate-granting institutions.....	6.5	*	0.7
Control.....			
Public.....	111.3	5.5	4.9
Private.....	36.3	1.8	4.9
Minority-serving institutions.....	5.8	0.1	1.5
HBCUs.....	2.6	*	1.4
Hispanic-serving institutions ¹	3.2	*	1.5

¹ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities
 NASF = net assignable square feet
 S&E = science and engineering
 * = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 6. Quality of academic science and engineering research space, by field: 1999 (revised)

Field	Total NASF [in millions] ¹	Percent of net assignable square feet (NASF)			
		Suitable for		Requiring	
		The most scientifically competitive research	Most levels of research	Major repair or renovation	Replacement
All fields.....	142.0	41.0	33.2	19.4	6.2
Biological sciences					
In medical schools	11.9	48.5	26.9	18.8	5.9
Outside medical schools.....	18.5	41.1	30.4	22.2	6.2
Medical sciences					
In medical schools.....	18.3	43.2	27.5	22.4	6.9
Outside medical schools.....	7.2	31.8	41.8	20.1	6.2
Agricultural sciences.....	23.5	32.5	35.2	22.6	9.8
Engineering.....	23.1	44.6	34.7	15.5	5.2
Physical sciences.....	18.3	39.8	36.5	19.1	4.6
Earth, atmospheric, and ocean sciences.....	7.2	38.3	34.1	21.3	6.3
Social sciences.....	4.3	42.9	39.3	14.5	3.4
Psychology.....	3.3	38.7	39.0	18.3	4.0
Computer sciences.....	2.3	42.7	34.8	15.2	7.3
Mathematics.....	0.9	51.6	33.6	11.9	2.9
Other sciences.....	3.0	69.7	19.0	9.0	2.2

¹ NASF is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

NOTES: Components may not add to totals due to rounding.
Quality was assessed relative to current research program.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 7. Academic institutions requiring major repair/renovation or replacement of science and engineering research space, by field and amount of space: 1999 (revised)

Field	Percent of institutions requiring ¹			
	Major repair or renovation		Replacement	
	25 percent or more of total research space	10 percent or less of total research space	25 percent or more of total research space	10 percent or less of total research space
All fields.....	29.6	19.3	7.0	27.8
Biological sciences				
In medical schools	22.8	16.8	8.9	13.9
Outside medical schools.....	38.2	14.2	11.2	9.8
Medical sciences				
In medical schools.....	26.9	13.9	6.5	12.0
Outside medical schools.....	24.9	13.3	7.2	12.7
Agricultural sciences.....	29.7	15.4	11.0	16.5
Engineering.....	23.1	15.1	10.7	17.3
Physical sciences.....	36.7	11.1	9.6	10.5
Earth, atmospheric, and ocean sciences.....	28.8	9.5	7.8	6.6
Social sciences.....	21.0	11.5	6.3	7.1
Psychology.....	27.8	14.9	7.6	6.6
Computer sciences.....	20.4	10.2	6.8	3.8
Mathematics.....	12.8	9.4	4.7	2.1
Other sciences.....	17.2	11.1	5.1	4.0

¹ Figures are based on only those institutions with space in a given field.

NOTE: Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 8. Quality of academic science and engineering research space, by type of institution: 1999 (revised)

Type of institution	NASF [in millions] ¹	Percent of total net assignable square feet (NASF)			
		Suitable for		Requiring	
		The most scientifically competitive research	Most levels of research	Major repair or renovation	Replacement
All academic institutions.....	142.0	41.0	33.2	19.4	6.2
Doctorate-granting institutions.....	135.9	41.7	33.0	19.3	5.8
Nondoctorate-granting institutions.....	6.1	22.4	38.6	21.6	15.5
Control					
Public.....	106.6	40.0	33.0	20.4	6.4
Private.....	35.4	44.0	33.8	16.1	5.8
Minority-serving institutions.....	5.6	35.2	35.9	17.0	11.7
HBCUs.....	2.4	21.8	41.1	20.1	16.8
Hispanic-serving institutions ²	3.2	45.9	31.7	14.5	7.6

¹ NASF is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF in this table and the NASF amounts in other tables.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 9. Academic institutions requiring major repair/renovation or replacement of science and engineering research space, by type of institution and amount of space: 1999 (revised)

Type of institution	Percent of institutions requiring			
	Major repair or renovation		Replacement	
	25 percent or more of total research space	10 percent or less of total research space	25 percent or more of total research space	10 percent or less of total research space
All academic institutions.....	29.6	19.3	7.0	27.8
Doctorate-granting institutions.....	25.4	20.8	3.4	36.0
Nondoctorate-granting institutions.....	37.8	16.3	14.1	11.9
Control				
Public.....	32.3	18.5	8.5	29.4
Private.....	25.2	20.5	4.6	25.2
Minority-serving institutions.....	28.0	24.0	18.7	22.7
HBCUs.....	34.0	20.8	18.9	17.0
Hispanic-serving institutions ¹	13.6	31.8	18.2	36.4

¹ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTE: Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 10. Academic science and engineering research space needs, by field: 1999 (revised)

Field	Net assignable square feet (NASF) [in millions]		
	Available space in 1999 ¹	Available space needing replacement ¹	Additional space needed
All fields.....	142.0	8.7	37.1
Biological sciences.....			
In medical schools.....	11.9	0.7	4.3
Outside medical schools.....	18.5	1.1	5.2
Medical sciences.....			
In medical schools.....	18.3	1.2	5.6
Outside medical schools.....	7.2	0.4	2.4
Agricultural sciences.....	23.5	2.3	2.6
Engineering.....	23.1	1.2	5.7
Physical sciences.....	18.3	0.8	3.8
Earth, atmospheric, and ocean sciences.....	7.2	0.4	1.7
Social sciences.....	4.3	0.1	1.3
Psychology.....	3.3	0.1	1.1
Computer sciences.....	2.3	0.2	2.0
Mathematics.....	0.9	0.0	0.6
Other sciences.....	3.0	0.1	0.7

¹ Available space is the amount of NASF located at only those institutions which also rated the quality of their research space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 11. Institutions needing additional academic science and engineering research space,
by field: 1999¹ (revised)**

Field	Percent of institutions needing additional space of		
	Less than 10 percent of current space ²	10 to 25 percent of current space	More than 25 percent of current space
All fields.....	23.8	19.8	39.3
Biological sciences			
In medical schools	10.8	16.7	29.4
Outside medical schools.....	13.9	11.5	38.5
Medical sciences			
In medical schools.....	10.1	16.5	35.8
Outside medical schools.....	7.2	10.5	29.3
Agricultural sciences.....	17.6	11.0	20.9
Engineering.....	13.8	12.9	32.0
Physical sciences.....	13.6	14.5	31.2
Earth, atmospheric, and ocean sciences.....	9.9	11.1	28.8
Social sciences.....	9.9	9.5	30.6
Psychology.....	8.3	8.0	37.5
Computer sciences.....	3.8	8.9	48.9
Mathematics.....	6.0	5.1	28.6
Other sciences.....	5.1	10.1	20.2

¹ Figures are based on only those institutions with research space in a given field.

² Does not include those institutions indicating that no additional space was needed.

NOTE: Amount of space needed was assessed relative to current research commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 12. Academic science and engineering research space needs, by region¹: 1999 (revised)

Region/states	Net assignable square feet [in millions]		
	Total NASF ²	Available space needing replacement ²	Additional space needed
All regions.....	142.0	8.7	37.1
Northeast.....	25.0	1.8	6.7
South.....	45.0	2.6	14.0
Midwest.....	38.7	2.5	8.0
West.....	32.6	1.7	8.1
EPSCoR ³ states.....	17.7	1.5	5.5

¹ Guam and Puerto Rico are excluded from the regions but are included in other table rows where appropriate.

² Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

³ States eligible for the National Science Foundation's Experimental Program to Stimulate Competitive Research.

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 13. Academic science and engineering research space needs, by type of institution: 1999 (revised)

Type of institution	Net assignable square feet [in millions]		
	Total NASF ¹	Available space needing replacement ¹	Additional space needed
All academic institutions.....	142.0	8.7	37.1
Doctorate-granting institutions.....	135.9	7.8	32.1
Nondoctorate-granting institutions.....	6.1	0.9	5.0
Control			
Public.....	106.6	6.7	28.2
Private.....	35.4	2.0	8.9
Minority-serving institutions.....	5.6	0.6	4.7
HBCUs.....	2.4	0.4	3.4
Hispanic-serving institutions ²	3.2	0.2	1.3

¹ Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 14. Repair or renovation of academic science and engineering research space,
by field: FYs 1998-2001 (revised)**

Field	Net assignable square feet [in millions]			
	Available in FY 1999 ¹		Repair or renovation	
	Total NASF	Needing major repair or renovation	Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All fields.....	142.0	27.0	17.9	14.2
Biological sciences				
In medical schools.....	11.9	2.1	2.4	2.2
Outside medical schools.....	18.5	4.1	2.2	2.1
Medical sciences				
In medical schools.....	18.3	3.8	1.6	2.3
Outside medical schools.....	7.2	1.4	1.2	0.8
Agricultural sciences.....	23.5	5.4	0.8	0.4
Engineering.....	23.1	3.6	2.9	1.4
Physical sciences.....	18.3	3.4	2.1	1.9
Earth, atmospheric, and ocean sciences.....	7.2	1.5	1.0	0.6
Social sciences.....	4.3	0.6	0.9	0.8
Psychology.....	3.3	0.6	0.7	0.4
Computer sciences.....	2.3	0.3	0.3	0.2
Mathematics.....	0.9	0.1	0.5	0.6
Other sciences.....	3.0	0.3	1.3	0.3

¹ Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF in other tables.

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 15. Repair or renovation of academic science and engineering research space,
by type of institution: FYs 1998-2001 (revised)**

Type of institution	Net assignable square feet [in millions]			
	Available in FY 1999 ¹		Repair or renovation	
	Total NASF	Needing major repair or renovation	Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All academic institutions.....	142.0	27.0	17.9	14.2
Doctorate-granting institutions.....	135.9	25.7	17.1	12.6
Nondoctorate-granting institutions.....	6.1	1.2	0.8	1.6
Control				
Public.....	106.6	21.5	12.4	10.2
Private.....	35.4	5.5	5.4	4.1
Minority-serving institutions.....	5.6	0.9	0.9	0.6
HBCUs.....	2.4	0.5	0.5	0.2
Hispanic-serving institutions ²	3.2	0.4	0.4	0.5

¹ Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF in other tables.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 16. New construction of academic science and engineering research space, by field: FYs 1998-2001 (revised)

Field	Net assignable square feet [in millions]			
	Available in FY 1999 ¹		New construction	
	Total NASF	Needing replacement	Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All fields.....	142.0	8.7	10.3	17.5
Biological sciences				
In medical schools.....	11.9	0.7	0.9	2.8
Outside medical schools.....	18.5	1.1	1.3	2.4
Medical sciences				
In medical schools.....	18.3	1.2	1.2	2.5
Outside medical schools.....	7.2	0.4	1.0	1.7
Agricultural sciences.....	23.5	2.3	1.2	1.2
Engineering.....	23.1	1.2	1.7	2.5
Physical sciences.....	18.3	0.8	1.3	1.3
Earth, atmospheric, and ocean sciences.....	7.2	0.4	0.4	0.7
Social sciences.....	4.3	0.1	0.2	0.3
Psychology.....	3.3	0.1	0.1	0.5
Computer sciences.....	2.3	0.2	0.3	0.6
Mathematics.....	0.9	0.0	0.1	0.1
Other sciences.....	3.0	0.1	0.5	1.0

¹ Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 17. New construction of academic science and engineering research space,
by type of institution: FYs 1998-2001 (revised)**

Type of institution	Net assignable square feet [in millions]			
	Available in FY 1999 ¹		New construction	
	Total NASF	Needing replacement	Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All academic institutions.....	142.0	8.7	10.3	17.5
Doctorate-granting institutions.....	135.9	7.8	9.2	15.9
Nondoctorate-granting institutions.....	6.1	0.9	1.1	1.5
Control				
Public.....	106.6	6.7	7.8	12.2
Private.....	35.4	2.0	2.4	5.3
Minority-serving institutions.....	5.6	0.6	0.7	0.9
HBCUs.....	5.6	0.6	0.5	0.4
Hispanic-serving institutions ²	3.2	0.2	0.2	0.5

¹ Net assignable square feet (NASF) is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

² Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding.
Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 18. Cost to repair or renovate academic science and engineering research space, by field: 1998-2001 (revised)

Field	Cost of repair and renovation [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start in FYs 2000 or 2001	To start after FY 2001	
All fields.....	1,792	2,175	3,861	1,829
Biological sciences				
In medical schools.....	244	391	167	261
Outside medical schools.....	278	278	517	238
Medical sciences				
In medical schools.....	247	579	429	181
Outside medical schools.....	100	123	140	97
Agricultural sciences.....	40	35	227	133
Engineering.....	333	116	673	246
Physical sciences.....	218	345	772	317
Earth, atmospheric, and ocean sciences.....	84	53	175	154
Social sciences.....	107	79	234	67
Psychology.....	33	62	135	48
Computer sciences.....	24	31	34	47
Mathematics.....	21	54	73	21
Other sciences.....	64	29	285	19

NOTES: Components may not add to totals due to rounding.

A deferred project refers to a repair/renovation or new construction project that: is necessary to meet your current S&E research program commitments; is not scheduled for your FYs 2000 or 2001; does not have funding; and is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments. Includes only projects over \$100,000.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 19. Cost of new construction of academic science and engineering research space,
by field: 1998-2001 (revised)**

Field	Cost of new construction [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start in FYs 2000 or 2001	To start after FY 2001	
All fields.....	3,222	7,928	9,242	2,150
Biological sciences				
In medical schools.....	292	1,470	519	130
Outside medical schools.....	489	1,068	1,646	236
Medical sciences				
In medical schools.....	506	1,246	1,642	369
Outside medical schools.....	375	1,218	1,044	348
Agricultural sciences.....	224	259	674	141
Engineering.....	416	843	965	184
Physical sciences.....	419	617	957	200
Earth, atmospheric, and ocean sciences.....	149	248	359	157
Social sciences.....	55	93	185	191
Psychology.....	49	207	52	29
Computer sciences.....	75	226	441	123
Mathematics.....	13	31	99	15
Other sciences.....	159	403	659	25

NOTES: Components may not add to totals due to rounding.

All projects are greater than \$100,000, except for those projects deferred and not in institutional plan.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 20. Cost to repair or renovate academic science and engineering space,
by type of institution: 1998-2001 (revised)**

Type of institution	Cost of repairs and renovation [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start in FYs 2000 or 2001	To start after FY 2001	
All academic institutions.....	1,792	2,175	3,861	1,829
Doctorate-granting institutions.....	1,697	1,997	3,557	1,776
Nondoctorate-granting institutions.....	94	178	305	53
Control				
Public.....	1,089	1,080	3,191	1,126
Private.....	703	1,095	671	703
Minority-serving institutions.....	75	50	60	12
HBCUs.....	58	14	43	5
Hispanic-serving institutions ¹	17	35	17	6

¹ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding.
All projects are greater than \$100,000, except for those projects deferred and not in institutional plan.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 21. Cost of new construction of academic science and engineering space,
by type of institution: 1998-2001 (revised)**

Type of institution	Cost of new construction [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start in FYs 2000 or 2001	To start after FY 2001	
All academic institutions.....	3,222	7,928	9,242	2,150
Doctorate-granting institutions.....	2,971	7,404	8,563	1,980
Nondoctorate-granting institutions.....	251	523	679	171
Control				
Public.....	2,242	5,159	7,051	1,705
Private.....	980	2,768	2,190	445
Minority-serving institutions.....	196	202	443	167
HBCUs.....	159	108	210	61
Hispanic-serving institutions ¹	38	94	233	106

¹ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding.
All projects are greater than \$100,000, except for those projects deferred and not in institutional plan.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 22. Source of funds for repair and renovation of academic science and engineering research space, by type of institution: 1998-99 (revised)

Type of institution	Total funding [in millions of dollars] ¹	Percent of total funding						
		Government		Private donations	Institutional funds ²	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
All academic institutions.....	1,665	4.1	28.6	11.5	37.2	13.5	4.2	0.8
Doctorate-granting institutions.....	1,576	3.9	28.3	9.9	38.3	14.3	4.5	0.8
Nondoctorate-granting institutions.....	89	8.2	33.2	40.0	16.6	0.0	0.0	2.1
Control								
Public.....	976	5.4	47.5	6.7	35.0	5.1	0.0	0.3
Private.....	689	2.3	1.8	18.3	40.3	25.5	10.2	1.6
Minority-serving institutions.....	39	23.0	59.0	4.1	13.9	0.0	0.0	0.0
HBCUs.....	22	30.4	51.9	7.4	10.3	0.0	0.0	0.0
Hispanic-serving institutions ³	17	13.4	68.0	0.0	18.6	0.0	0.0	0.0

¹ Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for the period 1998-99. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

² Institutional funds include an institution's operating funds, endowment, and indirect costs recovered from grants and contracts.

³ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 23. Source of funds for new construction of academic science and engineering research space,
by type of institution: 1998-99 (revised)**

Type of institution	Total funding [in millions of dollars] ¹	Percent of total funding						
		Government		Private donations	Institutional funds ²	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
All academic institutions.....	2,765	8.6	34.0	13.7	23.3	17.1	2.1	1.3
Doctorate-granting institutions.....	2,563	8.0	33.9	13.7	24.7	16.1	2.3	1.3
Nondoctorate-granting institutions.....	203	15.7	34.5	13.4	5.6	29.8	*	1.0
Control								
Public.....	1,810	11.2	43.5	10.4	19.3	12.1	1.7	1.7
Private.....	955	3.7	15.8	19.9	30.8	26.6	2.8	0.4
Minority-serving institutions.....	104	40.1	43.5	7.4	6.8	2.2	*	0.0
HBCUs.....	66	40.5	46.4	11.7	1.4	0.0	0.1	0.0
Hispanic-serving institutions ³	38	39.5	38.3	0.0	16.3	5.9	0.0	0.0

¹ Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for the period 1998-99. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

² Institutional funds include an institution's operating funds, endowment, and indirect costs recovered from Federal grants and contracts.

³ Institutions where at least 25 percent of the undergraduate full-time equivalent enrollment is Hispanic.

KEY: HBCUs = Historically Black Colleges and Universities

* = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 24. Trends in sources of funding for the construction of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
1986 or 1987								
Total.....	2,050.6	145.4	779.1	487.5	289.8	313.1	3.1	31.9
Doctorate-granting.....	1,887.7	129.9	690.4	462.5	289.2	280.1	3.1	31.9
Nondoctorate-granting.....	162.9	15.5	88.7	25.1	0.6	33.1	0.0	0.0
1988 or 1989								
Total.....	2,464.5	352.0	890.7	459.2	343.8	320.2	95.9	0.8
Doctorate-granting.....	2,315.0	339.0	807.3	411.7	338.3	320.2	95.9	0.8
Nondoctorate-granting.....	149.5	13.0	83.4	47.5	5.6	0.0	0.0	0.0
1990 or 1991								
Total.....	2,975.6	476.3	956.6	352.6	394.1	727.5	35.4	33.1
Doctorate-granting.....	2,847.3	465.5	947.9	348.0	390.3	627.0	35.4	33.1
Nondoctorate-granting.....	128.4	10.8	8.7	4.6	3.8	100.5	0.0	0.0
1992 or 1993								
Total.....	2,810.8	459.3	968.0	301.0	374.3	620.3	39.0	50.0
Doctorate-granting.....	2,720.0	452.0	893.0	297.0	374.0	616.0	39.0	48.0
Nondoctorate-granting.....	91.8	7.3	75.0	4.0	0.3	4.3	0.0	2.0
1994 or 1995								
Total.....	2,767.6	206.5	1,180.8	360.0	442.0	426.1	145.7	6.5
Doctorate-granting.....	2,436.9	201.2	890.4	344.0	437.5	411.6	145.7	6.5
Nondoctorate-granting.....	330.6	5.2	290.5	16.0	4.4	14.5	0.0	0.0
1996 or 1997								
Total.....	3,110.3	270.9	966.6	596.6	593.1	553.0	106.6	23.5
Doctorate-granting.....	2,843.2	268.3	880.6	517.8	592.9	488.1	73.2	22.3
Nondoctorate-granting.....	267.1	2.5	86.0	78.8	0.2	65.0	33.4	1.2
1998 or 1999 ²								
Total.....	2,765.4	237.8	939.0	379.4	644.2	472.1	57.9	35.0
Doctorate-granting.....	2,562.5	206.0	869.1	352.3	632.8	411.6	57.8	32.9
Nondoctorate-granting.....	202.9	31.8	69.9	27.2	11.4	60.5	*	2.0

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/or contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

KEY: * = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 25. Trends in sources of funding at public institutions for the construction of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
1986 or 1987								
Total.....	1,354.8	40.3	754.5	259.1	109.2	189.5	2.4	0.2
Doctorate-granting.....	1,220.4	31.4	665.9	238.6	109.2	173.1	2.4	0.2
Nondoctorate-granting.....	134.4	8.9	88.5	20.6	0.0	16.4	0.0	0.0
1988 or 1989								
Total.....	1,727.0	274.3	838.4	192.9	256.3	154.5	8.1	0.6
Doctorate-granting.....	1,625.6	268.3	755.0	184.8	252.4	154.6	8.1	0.6
Nondoctorate-granting.....	101.4	6.0	83.4	8.1	3.9	0.0	0.0	0.0
1990 or 1991								
Total.....	2,020.0	388.1	809.4	139.1	270.2	398.6	7.8	6.9
Doctorate-granting.....	1,906.4	382.3	800.7	139.1	270.2	299.4	7.8	6.9
Nondoctorate-granting.....	113.7	5.8	8.7	0.0	0.0	99.2	0.0	0.0
1992 or 1993								
Total.....	2,016.4	325.8	929.8	152.5	198.3	390.5	16.2	3.3
Doctorate-granting.....	1,929.9	320.1	854.4	152.5	198.1	386.9	16.2	1.7
Nondoctorate-granting.....	86.4	5.7	75.4	0.0	0.2	3.6	0.0	1.6
1994 or 1995								
Total.....	1,872.3	115.4	1,164.6	123.9	142.4	306.1	13.5	6.5
Doctorate-granting.....	1,578.1	112.5	874.0	123.9	141.6	306.1	13.5	6.5
Nondoctorate-granting.....	294.2	3.0	290.5	0.0	0.8	0.0	0.0	0.0
1996 or 1997								
Total.....	1,988.7	201.0	940.2	267.3	249.3	259.7	54.4	16.9
Doctorate-granting.....	1,812.7	198.4	863.2	262.0	249.3	203.1	21.0	15.7
Nondoctorate-granting.....	176.0	2.5	77.0	5.3	0.0	56.6	33.4	1.2
1998 or 1999 ²								
Total.....	1,810.1	202.6	787.8	188.9	349.9	218.2	31.2	31.4
Doctorate-granting.....	1,665.3	179.5	718.0	187.5	338.9	178.9	31.2	31.4
Nondoctorate-granting.....	144.8	23.1	69.9	1.3	11.0	39.4	*	0.0

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/o contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

KEY: * = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 26. Trends in sources of funding at private institutions for the construction of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
1986 or 1987								
Total.....	695.8	105.1	24.6	228.4	180.6	123.6	0.7	31.7
Doctorate-granting.....	667.3	98.5	24.5	223.9	180.0	107.0	0.7	31.7
Nondoctorate-granting.....	28.5	6.6	0.2	4.5	0.6	16.7	0.0	0.0
1988 or 1989								
Total.....	737.5	77.7	52.3	266.3	87.5	165.7	87.8	0.2
Doctorate-granting.....	689.4	70.7	52.3	226.9	85.9	165.6	87.8	0.2
Nondoctorate-granting.....	48.1	7.0	0.0	39.4	1.7	0.0	0.0	0.0
1990 or 1991								
Total.....	955.6	88.2	147.2	213.5	123.9	328.9	27.6	26.2
Doctorate-granting.....	940.9	83.2	147.2	208.9	120.1	327.6	27.6	26.2
Nondoctorate-granting.....	14.7	5.0	0.0	4.6	3.8	1.3	0.0	0.0
1992 or 1993								
Total.....	795.5	133.5	38.8	148.5	176.1	229.6	22.7	46.4
Doctorate-granting.....	789.7	132.2	38.8	144.6	175.8	229.3	22.7	46.4
Nondoctorate-granting.....	5.8	1.3	0.0	3.9	0.3	0.3	0.0	0.0
1994 or 1995								
Total.....	895.2	91.0	16.3	236.1	299.5	120.0	132.2	0.0
Doctorate-granting.....	858.8	88.8	16.3	220.1	295.9	105.5	132.2	0.0
Nondoctorate-granting.....	36.3	2.2	0.0	16.0	3.6	14.5	0.0	0.0
1996 or 1997								
Total.....	1,121.6	69.9	26.4	329.4	343.8	293.4	52.2	6.6
Doctorate-granting.....	1,030.5	69.9	17.4	255.9	343.6	285.0	52.2	6.6
Nondoctorate-granting.....	91.1	0.0	9.0	73.5	0.2	8.4	0.0	0.0
1998 or 1999 ²								
Total.....	955.3	35.2	151.2	190.6	294.2	253.9	26.7	3.6
Doctorate-granting.....	897.2	26.5	151.1	164.8	293.9	232.7	26.7	1.5
Nondoctorate-granting.....	58.1	8.7	0.1	25.8	0.4	21.1	0.0	2.0

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/or contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 27. Trends in sources of funding for the repair/renovation of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
1986 or 1987								
Total.....	837.9	27.3	233.1	101.0	328.0	137.6	3.8	7.4
Doctorate-granting.....	792.7	23.5	201.7	99.3	325.2	132.2	3.8	7.4
Nondoctorate-granting.....	45.2	3.7	31.4	1.6	3.0	5.4	0.0	0.0
1988 or 1989								
Total.....	1,009.5	61.1	233.8	52.1	570.8	69.9	15.9	5.2
Doctorate-granting.....	979.2	55.9	226.6	42.1	563.6	69.8	15.9	5.2
Nondoctorate-granting.....	30.3	5.1	7.1	10.0	7.2	0.0	0.0	0.0
1990 or 1991								
Total.....	825.7	49.0	243.0	100.6	355.4	66.4	8.0	3.2
Doctorate-granting.....	794.1	48.3	227.3	97.5	346.7	63.2	8.0	3.2
Nondoctorate-granting.....	31.6	0.7	15.8	3.2	8.7	3.3	0.0	0.0
1992 or 1993								
Total.....	835.4	56.2	252.4	73.0	332.0	81.0	27.0	16.2
Doctorate-granting.....	803.0	47.0	244.0	66.0	325.0	79.0	27.0	16.2
Nondoctorate-granting.....	32.4	9.2	8.4	7.0	7.0	2.0	0.0	0.0
1994 or 1995								
Total.....	1,058.1	110.7	265.5	110.7	432.7	50.4	78.6	9.3
Doctorate-granting.....	981.3	101.9	233.0	93.7	423.2	43.8	76.3	9.3
Nondoctorate-granting.....	76.8	8.8	32.6	17.0	9.5	6.6	2.4	0.0
1996 or 1997								
Total.....	1,324.5	120.8	338.1	140.6	578.6	84.6	35.7	26.1
Doctorate-granting.....	1,142.2	96.1	273.2	86.8	568.0	56.3	35.7	26.1
Nondoctorate-granting.....	182.3	24.7	64.9	53.8	10.6	28.3	0.0	0.0
1998 or 1999 ²								
Total.....	1,665.2	68.4	476.2	191.6	619.3	225.4	70.4	13.9
Doctorate-granting.....	1,576.3	61.1	446.7	156.1	604.5	225.4	70.4	12.1
Nondoctorate-granting.....	88.9	7.3	29.5	35.6	14.8	0.0	0.0	1.8

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/or contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 28. Trends in sources of funding at public institutions for the repair/renovation of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/local					
1986 or 1987								
Total.....	435.9	13.2	226.6	15.0	155.1	25.5	0.3	0.2
Doctorate-granting.....	399.3	10.9	195.1	14.3	153.4	25.0	0.3	0.2
Nondoctorate-granting.....	36.5	2.2	31.4	0.6	1.8	0.5	0.0	0.0
1988 or 1989								
Total.....	698.5	31.4	229.3	22.0	403.5	6.6	4.9	0.0
Doctorate-granting.....	673.9	26.5	222.1	13.9	399.8	6.5	4.9	0.0
Nondoctorate-granting.....	24.6	4.9	7.1	8.1	3.6	0.0	0.0	0.0
1990 or 1991								
Total.....	449.3	24.6	233.5	43.8	134.6	12.1	0.0	0.6
Doctorate-granting.....	431.3	23.9	217.8	43.8	133.1	12.1	0.0	0.6
Nondoctorate-granting.....	18.0	0.7	15.8	0.0	1.5	0.0	0.0	0.0
1992 or 1993								
Total.....	520.4	34.3	237.1	24.9	154.4	55.9	1.6	11.9
Doctorate-granting.....	507.9	31.1	228.5	24.9	153.8	55.9	1.6	11.9
Nondoctorate-granting.....	12.4	3.2	8.6	0.0	0.6	0.0	0.0	0.0
1994 or 1995								
Total.....	495.8	38.9	254.4	16.0	160.8	18.3	0.9	6.5
Doctorate-granting.....	449.9	31.8	222.3	15.7	154.4	18.3	0.9	6.5
Nondoctorate-granting.....	45.9	7.1	32.1	0.2	6.5	0.0	0.0	0.0
1996 or 1997								
Total.....	669.6	72.4	328.3	38.3	179.6	25.1	0.3	25.7
Doctorate-granting.....	580.5	58.2	263.4	36.8	175.6	20.6	0.3	25.7
Nondoctorate-granting.....	89.1	14.2	64.9	1.5	4.0	4.6	0.0	0.0
1998 or 1999 ²								
Total.....	976.4	52.8	463.6	65.8	341.6	49.4	0.1	3.1
Doctorate-granting.....	938.1	48.0	435.8	64.8	336.9	49.4	0.1	3.1
Nondoctorate-granting.....	38.3	4.8	27.9	0.9	4.7	0.0	0.0	0.0

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/or contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 29. Trends in sources of funding at private institutions for the repair/renovation of academic science and engineering research facilities, by type of institution: 1986-99 (revised)

Year of project start and type of institution	Current dollars [in millions]							
	All sources	Governments		Private donations	Institutional funds ¹	Tax-exempt bonds	Other debt	Other sources
		Federal	State/Local					
1986 or 1987								
Total.....	402.0	14.1	6.5	86.0	172.9	112.1	3.5	7.2
Doctorate-granting.....	393.4	12.6	6.6	85.0	171.8	107.2	3.5	7.2
Nondoctorate-granting.....	8.6	1.5	0.0	1.0	1.2	4.9	0.0	0.0
1988 or 1989								
Total.....	311.0	29.7	4.5	30.1	167.3	63.3	11.0	5.2
Doctorate-granting.....	305.3	29.4	4.5	28.2	163.8	63.3	11.0	5.2
Nondoctorate-granting.....	5.7	0.2	0.0	1.9	3.6	0.0	0.0	0.0
1990 or 1991								
Total.....	376.4	24.4	9.5	56.8	220.8	54.3	8.0	2.6
Doctorate-granting.....	362.8	24.4	9.5	53.7	213.6	51.1	8.0	2.6
Nondoctorate-granting.....	13.6	0.0	0.0	3.2	7.2	3.3	0.0	0.0
1992 or 1993								
Total.....	314.6	21.8	15.0	47.5	176.3	24.5	25.2	4.3
Doctorate-granting.....	294.7	16.0	15.0	40.7	170.5	22.9	25.2	4.2
Nondoctorate-granting.....	19.9	5.8	0.0	6.8	5.8	1.6	0.0	0.1
1994 or 1995								
Total.....	562.3	71.8	11.2	94.8	271.9	32.2	77.7	2.8
Doctorate-granting.....	531.4	70.1	10.7	78.0	268.8	25.6	75.4	2.8
Nondoctorate-granting.....	30.8	1.6	0.5	16.8	3.0	6.6	2.4	0.0
1996 or 1997								
Total.....	654.9	48.4	9.8	102.4	399.0	59.5	35.4	0.4
Doctorate-granting.....	561.7	37.9	9.8	50.1	392.4	35.7	35.4	0.4
Nondoctorate-granting.....	93.2	10.5	0.0	52.3	6.6	23.7	0.0	0.0
1998 or 1999 ²								
Total.....	688.8	15.6	12.5	125.8	277.7	176.0	70.3	10.8
Doctorate-granting.....	638.2	13.2	10.9	91.2	267.6	176.0	70.3	9.0
Nondoctorate-granting.....	50.6	2.4	1.6	34.6	10.1	0.0	0.0	1.8

¹ Funding for research activities from the institution's operating funds, endowments, indirect costs recovered from Federal grants and/or contracts, indirect costs recovered from other sources, etc.

² Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these fund for 1998 or 1999. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 30. Academic institutions with deferred capital projects to construct or repair/renovate academic science and engineering research facilities, by type of institution, project type and whether the project was included in institutional plans: 1999 (revised)

Type of institution	Percent of institutions with deferred capital projects					
	Included in institutional plans			Not included in institutional plans		
	To construct or repair/renovate S&E research facilities	To construct new S&E research facilities	To repair/renovate existing S&E research facilities	To construct or repair/renovate S&E research facilities	To construct new S&E research facilities	To repair/renovate existing S&E research facilities
Total.....	44	28	36	25	13	20
Doctorate-granting.....	51	34	43	29	17	23
Top 100 in R&D expenditures ¹	66	51	59	38	17	34
Other.....	44	26	35	25	16	18
Nondoctorate-granting.....	30	17	22	18	5	15
Public.....	51	35	43	27	16	21
Doctorate-granting.....	61	43	53	32	22	25
Nondoctorate-granting.....	34	19	24	16	5	13
Private.....	32	17	25	23	7	20
Doctorate-granting.....	36	19	27	24	8	20
Nondoctorate-granting.....	23	13	19	21	6	19

¹ Expenditures are for Fiscal Year 1997.

KEY: S&E = science and engineering

NOTE: A deferred project refers to a repair/renovation or new construction project that: is necessary to meet your current S&E research program commitments; is not scheduled for your FYs 2000 or 2001; does not have funding; and is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 31. Estimated cost of deferred capital projects to construct or repair/renovate academic science and engineering research facilities, by type of institution, project type and whether the project was included in institutional plans: 1999¹ (revised)

Type of institution	Current dollars [in millions]				
	Total	Deferred capital projects			
		Included in institutional plans		Not included in institutional plans	
		To construct new S&E research facilities	To repair/renovate existing S&E research facilities	To construct new S&E research facilities	To repair/renovate existing S&E research facilities
Total.....	15,820	7,985	3,982	1,812	2,041
Doctorate-granting.....	14,816	7,573	3,682	1,736	1,825
Top 100 in research expenditures.....	10,472	5,373	2,891	962	1,246
Other.....	4,343	2,200	791	774	578
Nondoctorate-granting.....	1,004	412	299	76	216
Public.....	13,140	6,477	3,570	1,666	1,427
Doctorate-granting.....	12,476	6,198	3,382	1,627	1,269
Nondoctorate-granting.....	664	279	188	39	159
Private.....	2,679	1,508	412	147	613
Doctorate-granting.....	2,340	1,374	300	109	556
Nondoctorate-granting.....	340	134	112	37	57

¹ Figures include costs for central campus infrastructure.

KEY: S&E = science and engineering

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 32. Number of academic institutions with deferred capital projects to construct or repair/renovate science and engineering research facilities, by field, project type and whether the project was included in institutional plans: 1999 (revised)

Field	Institutions with deferred capital projects				
	Total	Included in institutional plans		Not in institutional plans	
		To construct new S&E research facilities	To repair/renovate existing S&E research facilities	To construct new S&E research facilities	To repair/renovate existing S&E research facilities
Total.....	205	122	144	60	88
Biological sciences					
In medical schools.....	40	15	25	8	17
Outside medical schools.....	129	63	81	19	45
Medical sciences					
In medical schools.....	48	27	31	10	18
Outside medical schools.....	61	30	34	17	19
Agricultural sciences.....	47	30	34	7	17
Engineering.....	94	48	62	18	34
Physical sciences.....	131	53	91	20	50
Earth, atmospheric, and ocean sciences.....	71	31	43	16	30
Social sciences.....	62	22	39	17	30
Psychology.....	60	14	43	10	30
Computer sciences.....	70	32	37	22	27
Mathematics.....	59	20	36	14	25
Other sciences.....	43	24	24	13	16

KEY: S&E = science and engineering

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 33. Costs of deferred capital projects to construct or repair/renovate academic science and engineering research facilities, by field, project type and whether the project was included in institutional plans: 1999 (revised)

Field	Deferred capital projects [current dollars in millions]				
	Total	Included in institutional plans		Not included in institutional plans	
		To construct new S&E research facilities	To repair/renovate existing S&E research facilities	To construct new S&E research facilities	To repair/renovate existing S&E research facilities
Total ¹	17,082	9,242	3,861	2,150	1,829
Biological sciences					
In medical schools.....	1,078	519	167	130	261
Outside medical schools.....	2,638	1,646	517	236	238
Medical sciences					
In medical schools.....	2,621	1,642	429	369	181
Outside medical schools.....	1,629	1,044	140	348	97
Agricultural sciences.....	1,174	674	227	141	133
Engineering.....	2,069	965	673	184	246
Physical sciences.....	2,247	957	772	200	317
Earth, atmospheric, and ocean sciences.....	845	359	175	157	154
Social sciences.....	677	185	234	191	67
Psychology.....	264	52	135	29	48
Computer sciences.....	645	441	34	123	47
Mathematics.....	209	99	73	15	21
Other sciences.....	989	659	285	25	19

¹ Figures exclude costs for central campus infrastructure.

KEY: S&E = science and engineering

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 34. Amount of instructional and research space in Historically Black Colleges and Universities, by type of space: 1999 (revised)

Type of space	NASF [in millions]	
	Original 29 HBCUs ¹	Expanded HBCUs ²
Total instructional and research space—all fields.....	10.8	17.6
S&E instructional and research space.....	6.8	10.2
S&E research space.....	1.8	2.6

¹ The original group consists of the same 29 HBCUs surveyed from 1988 through 1999.

² The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

KEY: HBCUs = Historically Black Colleges and Universities

NASF = net assignable square feet

S&E = science and engineering

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 35. Total amount of science and engineering instructional and research space in the 29 original¹ Historically Black Colleges and Universities, by field: 1988-99² (revised)

Field	Total instructional and research NASF [in thousands]							Total research NASF [in thousands]						
	1988	1990	1992	1994	1996	1998	1999	1988	1990	1992	1994	1996	1998	1999
Total	6,077	6,175	6,576	6,084	6,755	6,818	6,831	1,112	1,440	1,782	1,759	1,797	1,885	1,846
Biological sciences														
In medical schools.....	621	388	388	456	470	513	448	91	121	121	159	150	181	151
Outside medical schools.....	509	546	621	581	634	663	645	141	170	254	250	208	216	186
Medical sciences														
In medical schools.....	1,253	810	810	649	872	903	893	141	158	160	69	84	87	110
Outside medical schools.....	593	956	963	913	719	726	722	37	50	133	134	63	82	76
Agricultural sciences.....	604	834	783	704	718	786	773	259	433	414	470	451	471	469
Engineering.....	777	979	1,207	1,136	1,354	1,385	1,407	152	167	285	315	349	363	394
Physical sciences.....	804	810	1,005	876	939	841	871	179	190	235	212	229	234	267
Earth, atmospheric, and														
ocean sciences.....	44	56	85	73	115	121	135	10	26	35	27	42	43	43
Social sciences.....	304	322	278	233	268	257	207	28	47	57	43	56	46	36
Psychology.....	119	105	86	106	134	114	124	14	19	16	18	16	16	20
Computer sciences.....	150	114	160	128	140	159	162	43	30	42	31	36	40	27
Mathematics.....	173	164	191	158	194	204	218	12	26	29	19	24	20	23
Other sciences.....	126	91	0	70	198	146	226	4	4	0	12	88	86	44

¹ The original group consists of the same 29 HBCUs surveyed from 1988 through 1999.

² In past surveys, the year assigned to a survey reflected the year that the survey report was published. For example, the 1998 survey was published in 1998 while the data were collected for 1997. Starting with the 1999 survey, the survey year reflects the year of the current amount of space.

KEY: HBCUs = Historically Black Colleges and Universities
NASF = net assignable square feet

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 36. Total amount of science and engineering instructional and research space in expanded group ¹ of Historically Black Colleges and Universities, by field: 1992-99 ² (revised)

Field	Total instructional and research NASF [in thousands]					Total research NASF [in thousands]				
	1992	1994	1996	1998	1999	1992	1994	1996	1998	1999
Total	9,095	7,923	8,984	8,734	10,189	2,920	2,197	2,374	2,339	2,629
Biological sciences										
In medical schools.....	388	456	470	513	452	121	159	150	181	154
Outside medical schools.....	1,757	1,063	1,182	1,005	1,010	1,137	480	393	305	275
Medical sciences										
In medical schools.....	862	649	872	903	916	187	69	84	87	113
Outside medical schools.....	1,070	989	799	805	807	147	141	77	95	93
Agricultural sciences.....	930	705	979	1,081	1,257	497	483	595	635	657
Engineering.....	1,353	1,278	1,445	1,499	1,859	302	355	364	388	562
Physical sciences.....	1,380	1,344	1,482	1,212	1,290	275	280	352	321	350
Earth, atmospheric, and ocean sciences.....	131	97	219	214	233	64	36	54	57	59
Social sciences.....	438	367	413	415	430	78	61	77	56	50
Psychology.....	173	222	219	214	235	25	33	31	31	36
Computer sciences.....	283	278	356	383	1,060	53	52	64	65	190
Mathematics.....	325	365	345	338	385	34	38	44	31	41
Other sciences.....	5	109	202	151	255	0	14	88	86	50
Number of research- performing HBCUs.....	70	70	68	57	53	70	70	68	57	53

¹ The expanded group consists of all research-performing HBCUs

² In past surveys, the year assigned to a survey reflected the year that the survey report was published. For example, the 1998 survey was published in 1998 while the data were collected for 1997. Starting with the 1999 survey, the survey year reflects the year of the current amount of space.

KEY: HBCUs = Historically Black Colleges and Universities
NASF = net assignable square feet

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 37. Trends in the condition of science and engineering research facilities at Historically Black Colleges and Universities: 1988-99¹ (revised)

Condition of research facilities	Percentage of research space											
	Original 29 HBCUs ²							Expanded HBCUs ³				
	1988	1990	1992	1994	1996 ⁴	1998 ⁴	1999 ⁵	1992	1994	1996 ⁴	1998 ⁴	1999 ⁵
Total.....	100	100	100	100	100	100	100	100	100	100	100	100
Suitable for most highly developed and scientifically sophisticated research.....	36	31	34	31	32	36	24	22	24	31	35	22
Effective for most uses, but not most scientifically sophisticated research.....	39	45	41	39	--	--	--	56	35	--	--	--
Effective for most levels of research in the field, but may need limited repair/renovation.....	18	18	17	21	56	47	41	14	25	55	48	41
Requires major repair/renovation or replacement to be used effectively.....	7	7	8	9	13	17	34	8	16	14	16	37

¹ In past surveys, the year assigned to a survey reflected the year that the survey report was published. For example, the 1998 survey was published in 1998 while the data were collected for 1997. Starting with the 1999 survey, the survey year reflects the year the majority of the data represents.

² The original group consists of the same 29 HBCUs surveyed from 1988 through 1999

³ The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

⁴ 1996 and 1998 survey response categories changed to: suitable for the most scientifically competitive research; effective for most levels of research in the field, but may need limited repair/renovation; and requires major renovation or replacement to be used effectively.

⁵ 1999 survey response categories changed to: suitable for the most scientifically competitive research; effective for most levels of research in the field, but may need limited repair/renovation; requires major renovation to be used effectively, and requires replacement.

KEY: HBCUs = Historically Black Colleges and Universities
 -- = included in other reported categories

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 38. Trends in science and engineering research facilities construction and repair/renovation at Historically Black Colleges and Universities, by project characteristics: 1986-99¹ (revised)

Project characteristics	Original 29 HBCUs ²								Expanded HBCUs ³					
	1986	1988	1990	1992	1994	1996	1998	1999	1990	1992	1994	1996	1998	1999
New construction ⁴														
Total estimated completion cost														
[current dollars in millions].....	72	55	23	9	3	64	35	144	38	29	21	66	64	159
Amount of space [NASF in thousands].....	481	319	328	88	68	335	165	464	449	226	166	347	252	489
Number of HBCUs with projects.....	11	10	6	4	4	10	6	5	10	9	13	14	10	8
Repair/renovation ⁴														
Total estimated completion cost														
[current dollars in millions].....	14	17	12	9	22	8	16	52	21	9	22	13	18	58
Amount of space [NASF in thousands].....	137	308	129	106	343	114	262	443	177	110	347	150	280	486
Number of HBCUs with projects.....	13	10	5	11	7	5	9	7	8	12	9	15	13	12
Repair/renovation projects costing \$5,000-\$100,000														
Total estimated completion cost														
[current dollars in millions].....	--	--	1	3	1	1	--	--	1	26	2	2	--	--
Number of HBCUs with projects.....	--	--	10	13	11	13	--	--	21	38	24	22	--	--

¹ In past surveys, the year assigned to a survey reflected the year that the survey report was published. For example, the 1998 survey was published in 1998 while the data were collected for 1997. Starting with the 1999 survey, the survey year reflects the year of the majority of the data.

² The original group consists of the same 29 HBCUs surveyed from 1988 through 1999.

³ The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

⁴ Findings are limited to projects with estimated total cost at completion of \$100,000 or more for research space.

KEY: HBCUs = Historically Black Colleges and Universities

NASF = net assignable square feet

-- = data were not collected

NOTE: Net assignable square feet is the sum of all areas on all floors of a building assigned to, or available to be assigned to, an occupant for specific use.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 39. Trends in sources of funds for science and engineering research facilities construction at Historically Black Colleges and Universities: 1986-98 (revised)

Source of funds	Current dollars [in millions]											
	1986 ¹	1988 ¹	1990		1992		1994		1996		1998 ⁴	
			Original ²	Expanded ³	Original ²	Expanded ³	Original ²	Expanded ³	Original ²	Expanded ³	Original ²	Expanded ³
Total.....	71.8	55.1	22.5	37.6	8.6	28.8	3.3	21.3	64.3	66.2	54.6	65.7
Federal Government.....	32.7	35.0	12.1	13.0	6.5	4.6	1.3	3.3	4.6	4.8	18.2	26.6
State/local government.....	25.8	11.5	6.3	18.0	2.0	22.4	2.0	16.8	50.5	50.5	28.5	30.5
Private donations.....	11.1	7.7	0.0	0.0	0.0	0.0	0.0	0.3	3.0	3.4	6.9	7.7
Institutional funds.....	2.3	0.9	4.2	4.6	0.0	0.2	0.0	0.9	1.5	1.5	0.9	0.9
Tax-exempt bonds.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	0.0
Other debt.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	*	*
Other sources.....	0.0	0.0	0.0	1.9	0.0	1.6	0.0	0.0	1.0	2.2	0.0	0.0
Number of research-performing HBCUs.....	29	29	29	70	28	68	29	68	29	57	24	53

¹ Data for the first two time periods were heavily inflated by construction activity at a single institution, which accounted for a substantial fraction of the total dollar amount shown.

² The original group consists of the same 29 HBCUs surveyed from 1988 through 1998.

³ The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

⁴ Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for the period 1998-99. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

KEY: HBCUs = Historically Black Colleges and Universities

* = rounds to zero

NOTES: Components may not add to totals due to rounding. Projects were started during two-year periods. The years in the table reflect the first year of these two-year periods.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 40. Trends in sources of funding for science and engineering research facilities repair/renovation at Historically Black Colleges and Universities: 1986-98 (revised)

Source of funds	Current dollars [in millions]											
	1986	1988	1990		1992		1994		1996		1998 ³	
			Original ¹	Expanded ²	Original ¹	Expanded ²	Original ¹	Expanded ²	Original ¹	Expanded ²	Original ¹	Expanded ²
Total.....	14.1	21.1	11.6	21.4	8.7	9.1	21.5	22.0	7.6	13.2	15.2	21.9
Federal Government.....	8.7	12.9	3.5	3.6	5.0	4.8	10.2	10.4	2.2	4.5	2.9	6.7
State/local government.....	4.9	8.0	8.0	17.7	2.1	2.1	6.4	6.6	1.8	2.5	9.7	11.3
Private donations.....	0.5	0.1	0.1	0.2	1.7	1.7	0.0	0.0	0.0	0.2	1.3	1.6
Institutional funds.....	0.0	0.1	0.1	0.1	0.1	0.4	2.6	2.6	3.6	6.0	1.3	2.2
Tax-exempt bonds.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other debt.....	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4	0.0	0.0	0.0	0.0
Other sources.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Number of research-performing HBCUs.....	29	29	29	70	28	68	29	68	29	57	24	53

¹ The original group consists of the same 29 HBCUs surveyed from 1988 through 1999.

² The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

³ Several institutions provided inconsistent information about the costs of new construction and repair/renovation and the source of these funds for the period 1998-99. Consequently, the table data for sources of funding may not be consistent with table data on construction and repair/renovation costs.

KEY: HBCUs = Historically Black Colleges and Universities

NOTES: Components may not add to totals due to rounding. Projects were started during two-year periods. The years in the table reflect the first year of these two-year periods.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 41. Laboratory animal research facilities at Historically Black Colleges and Universities: 1999 (revised)

Indicator	Original 29 HBCUs ¹	Expanded HBCUs ²
Total animal research space [NASF in thousands].....	170.6	188.0
Animal laboratory space [NASF in thousands].....	69.2	77.6
Animal housing space [NASF in thousands].....	101.4	110.4
Cost of scheduled construction and repair/renovation of laboratory animal facilities, 1998 or 1999 [current dollars in millions].....	15.3	15.3
Amount of space scheduled for construction and repair/renovation of laboratory animal facilities, 1998 or 1999 [NASF in thousands].....	11.0	11.0

¹ The original group consists of the same 29 HBCUs surveyed from 1988 through 1999.

² The expanded group consists of all research-performing HBCUs, including the 29 original HBCUs.

KEY: HBCUs = Historically Black Colleges and Universities
NASF = net assignable square feet

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 42. Geographic distribution of biomedical research space, by field and type of institution: 1999¹ (revised)

Field and type of institution	Net assignable square feet [in millions]					
	All states	Northeast	Midwest	South	West	IDeA program states ²
Biological sciences.....	42.2	9.7	9.0	12.2	11.1	4.5
Academic institutions.....	31.7	6.7	8.5	9.6	6.7	3.7
In medical schools ³	12.4	3.1	3.1	4.5	1.6	1.3
Outside medical schools.....	19.3	3.5	5.4	5.1	5.1	2.3
Research hospitals.....	2.6	1.3	0.3	0.4	0.6	0.1
Biomedical research institutions.....	7.9	1.8	0.2	2.1	3.9	0.8
Medical sciences.....	34.8	9.5	7.9	9.9	7.5	2.9
Academic institutions.....	26.2	4.8	6.9	9.1	5.4	2.5
In medical schools ³	18.8	3.1	4.7	7.2	3.7	1.7
Outside medical schools.....	7.5	1.8	2.2	1.9	1.6	0.8
Research hospitals.....	5.6	3.9	0.5	0.4	0.8	0.4
Biomedical research institutions.....	3.0	0.8	0.5	0.4	1.3	*

¹ Guam and Puerto Rico are excluded from the regions but are included in other table columns.

² States in which institutions are eligible for grants through the Institutional Development Award (IDeA) program of the National Institutes of Health.

³ Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

KEY: * = rounds to zero

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 43. Institutional distribution of biomedical research space, by field: 1999 (revised)

Field	Net assignable square feet [in millions]					
	All institutions	Academic institutions			Research hospitals	Biomedical research institutions
		All academic institutions	In medical schools	Outside medical schools		
Biological sciences.....	42.2	31.7	12.4	19.3	2.6	7.9
Medical sciences.....	34.8	26.2	18.8	7.5	5.6	3.0

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 44. Percentage of institutions with leased biomedical research space, by field and type of institution: 1999 (revised)

Field	All institutions	Academic institutions			Research hospitals	Biomedical research institutions
		All academic institutions	In medical schools	Outside medical schools		
Biological sciences.....	18	12	25	7	30	47
Medical sciences.....	30	27	42	15	26	55

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 45. Institutional distribution of animal research space, by type of space: 1999 (revised)

Type of space	Net assignable square feet [in millions]			
	All institutions	Academic institutions	Research hospitals	Biomedical research institutions
All animal research space.....	15.4	12.8	0.7	1.9
Animal housing.....	11.1	9.1	0.5	1.5
Animal laboratories.....	4.4	3.7	0.3	0.4

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 46. Quality of biomedical research space, by field and type of institution: 1999 (revised)

Field and type of institution	Total NASF [in millions] ¹	Percent of net assignable square feet (NASF)			
		Suitable for		Requiring	
		The most scientifically competitive research	Most levels of research	Major repair or renovation	Replacement
Biological sciences.....	41	52	26	17	5
All academic institutions.....	30	44	29	21	6
Doctorate-granting institutions.....	29	44	29	21	6
At universities with medical schools ²	19	45	29	20	7
In medical schools ²	12	48	27	19	6
Outside medical schools.....	7	40	32	21	8
Research hospitals.....	3	69	23	6	3
Biomedical research institutions.....	8	80	13	5	1
Medical sciences.....	34	43	31	19	7
All academic institutions.....	26	40	32	21	7
Doctorate-granting institutions.....	25	40	32	21	7
At universities with medical schools ²	22	41	31	22	7
In medical schools ²	18	43	28	22	7
Outside medical schools.....	4	33	40	20	6
Research hospitals.....	5	49	32	11	8
Biomedical research institutions.....	3	59	22	7	12

¹ Total NASF is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program. Consequently, there may be small variations in the amount of NASF in this table and the NASF amounts in other tables.

² Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

KEY: NASF = net assignable square feet

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 47. Biomedical research space needs, by field and type of institution: 1999 (revised)

Field and type of institution	Net assignable square feet (NASF) [in millions]		
	Available space in 1999 ¹	Available space needing replacement ¹	Additional space needed
Biological sciences.....	41.0	2.0	10.6
All academic institutions.....	30.7	1.8	9.5
Doctorate-granting institutions.....	29.4	1.6	8.6
At universities with medical schools ²	19.1	1.2	6.5
In medical schools ²	11.8	0.7	4.2
Outside medical schools.....	7.3	0.6	2.2
Research hospitals.....	2.6	0.1	0.3
Biomedical research institutions.....	7.7	0.1	0.8
Medical sciences.....	34.1	2.3	10.2
All academic institutions.....	25.7	1.6	7.9
Doctorate-granting institutions.....	25.5	1.6	7.8
At universities with medical schools ²	22.4	1.4	6.6
In medical schools ²	18.1	1.2	5.3
Outside medical schools.....	4.3	0.3	1.3
Research hospitals.....	5.5	0.4	1.9
Biomedical research institutions.....	3.0	0.3	0.4

¹ Available space is the amount of NASF located at only those institutions which also rated the quality of their research space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

² Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 48. Quality of animal research space, by type of institution: 1999 (revised)

Type of institution	Total NASF [in millions] ¹	Percent of net assignable square feet (NASF)			
		Suitable for		Requiring	
		The most scientifically competitive research	Most levels of research	Major repair or renovation	Replacement
All institutions.....	15.0	56.9	25.9	9.8	7.3
Academic institutions.....	12.3	54.2	27.3	10.5	8.0
Research hospitals.....	0.7	69.1	18.8	7.6	4.4
Biomedical research institutions.....	1.8	71.9	21.0	5.1	2.0

¹ Total NASF is the amount of NASF located at only those institutions which also rated the quality of their space for their current research program commitments. Consequently, there may be small variations in the amount of NASF in this table and the NASF amounts in other tables.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 49. Animal research space needs, by type of institution: 1999 (revised)

Type of institution	Net assignable square feet (NASF) [in millions]		
	Available space in 1999 ¹	Available space needing replacement ²	Additional space needed ²
All institutions.....	15.3	1.0	2.0
Academic institutions.....	12.8	1.0	1.6
Research hospitals.....	0.7	0.0	0.2
Biomedical research institutions.....	1.8	0.0	0.2

¹ Available space is the amount of NASF located at only those institutions which also rated the quality of their research space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

² Space was assessed for current research program commitments.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 50. Repair or renovation of biomedical research space, by field and type of institution: FYs 1998-2001 (revised)

Field and type of institution	Net assignable square feet (NASF) [in millions]			
	Available in FY 1999		Repair or renovation	
	Total ¹	Needing repair or renovation ¹	Started in FYs 1998 or 1999	Planned for FYs 2000 or 2001
Biological sciences.....	41.0	6.7	5.6	4.9
All academic institutions.....	30.7	6.2	4.5	4.3
Doctorate-granting institutions.....	29.4	5.9	4.2	3.4
At universities with medical schools ²	19.1	3.6	3.0	2.3
In medical schools ²	11.8	2.1	2.3	1.9
Outside medical schools.....	7.3	1.5	0.7	0.4
Research hospitals.....	2.6	0.1	0.1	0.1
Biomedical research institutions.....	7.7	0.4	0.9	0.5
Medical sciences.....	34.1	6.0	3.3	3.5
All academic institutions.....	25.7	5.2	2.8	3.1
Doctorate-granting institutions.....	25.5	5.2	2.8	3.1
At universities with medical schools ²	22.4	4.7	2.4	2.7
In medical schools ²	18.1	3.8	1.6	2.2
Outside medical schools.....	4.3	0.8	0.8	0.5
Research hospitals.....	5.5	0.6	0.5	0.2
Biomedical research institutions.....	3.0	0.2	0.1	0.2

¹ Available space is the amount of NASF located at only those institutions which also rated the quality of their research space for their current research program. Consequently, there may be small variations in the amount of NASF and the NASF amounts in other tables.

² Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 51. New construction of biomedical research space, by field and type of institution:
FYs 1998-2001 (revised)**

Field and type of institution	Net assignable square feet [in millions]		
	Available in FY 1999 ¹	New construction	
		Started in FYs 1998 or 1999	Planned for FYs 2000 or 2001
Biological sciences.....	42.2	4.4	5.9
All academic institutions.....	31.7	2.2	5.1
Doctorate-granting institutions.....	30.3	2.1	4.9
At universities with medical schools ²	19.6	1.3	4.0
In medical schools ²	12.1	0.9	2.7
Outside medical schools.....	7.6	0.4	1.3
Research hospitals.....	2.6	0.6	0.2
Biomedical research institutions.....	7.9	1.7	0.6
Medical sciences.....	34.8	4.5	5.0
All academic institutions.....	26.2	2.2	4.2
Doctorate-granting institutions.....	26.0	2.0	4.2
At universities with medical schools ²	22.8	1.4	3.7
In medical schools ²	18.4	1.0	2.5
Outside medical schools.....	4.5	0.4	1.3
Research hospitals.....	5.6	2.2	0.4
Biomedical research institutions.....	3.0	0.1	0.4

¹ Includes research space identified by all institutions, regardless of whether the institution rated the quality of the space.

² Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 52. Repair or renovation of animal research space, by type of institution: FYs 1998-2001 (revised)

Type of institution	Net assignable square feet (NASF) [in millions]		
	Available in FY 1999	Repair or renovation	
		Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All institutions.....	15.44	0.53	0.63
Academic institutions.....	12.76	0.45	0.52
Research hospitals.....	0.74	0.05	0.01
Biomedical research institutions.....	1.94	0.03	0.10

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 53. New construction of animal research space, by type of institution: FYs 1998-2001 (revised)

Type of institution	Net assignable square feet (NASF) [in millions]		
	Available in FY 1999	New construction	
		Started in FYs 1998 or 1999	Planned to start in FYs 2000 or 2001
All institutions.....	15.44	0.55	0.84
Academic institutions.....	12.76	0.40	0.60
Research hospitals.....	0.74	0.12	0.06
Biomedical research institutions.....	1.94	0.03	0.18

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 54. Cost to repair or renovate biomedical research space, by field and type of institution:
FYs 1998-2001 (revised)**

Field and type of institution	Cost of repair and renovation [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start FYs 2000 or 2001	To start after FY 2001	
Biological sciences.....	648	782	792	526
All academic institutions.....	523	669	684	499
Doctorate-granting institutions.....	503	616	635	487
At universities with medical schools ¹	357	409	403	295
In medical schools ¹	240	315	165	261
Outside medical schools.....	117	94	238	34
Research hospitals.....	16	59	.	1
Biomedical research institutions.....	110	53	108	26
Medical sciences.....	420	807	649	322
All academic institutions.....	347	702	569	277
Doctorate-granting institutions.....	345	697	569	277
At universities with medical schools ¹	315	627	502	224
In medical schools ¹	242	573	407	162
Outside medical schools.....	73	54	96	63
Research hospitals.....	64	78	65	45
Biomedical research institutions.....	8	28	16	*

¹ Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

KEY: * = rounds to zero

NOTES: Components may not add to totals due to rounding.

A deferred project refers to a repair/renovation or new construction project that: is necessary to meet your current S&E research program commitments; is not scheduled for your FYs 2000 or 2001; does not have funding; and is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments. Includes only projects over \$100,000.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

Table 55. Cost of new construction of biomedical research space, by field and type of institution: FYs 1998-2001 (revised)

Field and type of institution	Cost of new construction [in millions of current dollars]			
	Started in FYs 1998 or 1999	Planned		Deferred and not included in institutional plan
		To start FYs 2000 or 2001	To start after FY 2001	
Biological sciences.....	1,369	2,819	2,197	525
All academic institutions.....	781	2,538	2,165	366
Doctorate-granting institutions.....	716	2,440	2,003	335
At universities with medical schools ¹	476	2,049	1,101	184
In medical schools ¹	279	1,432	499	128
Outside medical schools.....	196	617	602	56
Research hospitals.....	340	91	7	68
Biomedical research institutions.....	248	190	24	91
Medical sciences.....	1,386	2,775	2,936	883
All academic institutions.....	882	2,464	2,686	717
Doctorate-granting institutions.....	847	2,462	2,557	717
At universities with medical schools ¹	725	2,312	1,804	448
In medical schools ¹	478	1,240	1,457	346
Outside medical schools.....	247	1,073	347	102
Research hospitals.....	441	186	18	156
Biomedical research institutions.....	63	124	232	10

¹ Only includes medical schools accredited by the American Association of Medical Colleges. Includes stand-alone medical schools.

NOTES: Components may not add to totals due to rounding.

A deferred project refers to a repair/renovation or new construction project that: is necessary to meet your current S&E research program commitments; is not scheduled for your FYs 2000 or 2001; does not have funding; and is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments. Includes only projects over \$100,000.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Scientific and Engineering Research Facilities

**Table 56. Cost of repair or renovation of animal research space,
by type of institution: FYs 1998-2001 (revised)**

Type of institution	Cost of repair or renovation [in millions of current dollars]	
	Started in FYs 1998 or 1999	Planned for FYs 2000 or 2001
All institutions.....	92.9	197.4
Academic institutions.....	64.5	186.1
Research hospitals.....	23.6	2.1
Biomedical research institutions.....	4.8	9.2

SOURCE: National Science Foundation/Division of Science Resources Studies,
Survey of Scientific and Engineering Research Facilities

**Table 57. Cost of new construction of animal research space,
by type of institution: FYs 1998-2001 (revised)**

Type of institution	Cost of new construction	
	[in millions of current dollars]	
	Started in FYs 1998 or 1999	Planned for FYs 2000 or 2001
All institutions.....	323.4	417.5
Academic institutions.....	222.7	304.4
Research hospitals.....	81.2	29.4
Biomedical research institutions.....	19.5	83.7

NOTE: Components may not add to totals due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Studies,
Survey of Scientific and Engineering Research Facilities